METHYL MERCURY DETERMINATION in FISH and SHELLFISH

Mercury occurs in the environment in three forms, a monovalent salt, a divalent salt and a methylated form. The methylated form is produced by an anaerobic bacteria from divalent salt. Methyl mercury is toxic to humans causing cellular changes, primarily in the brain and kidneys, neuron damage and deactivation of certain enzymes.

Methyl mercury is of interest to the seafood community because it is the primary form of the metal found in fish. Methyl mercury is easily absorbed after ingestion; it passes the placental barrier and also bioaccumulates in fatty tissue with a half-life in adult humans of 60-120 days. It is unclear if methyl mercury bioaccumulates in fetal tissue, but children born to women with high mercury blood levels have been observed to suffer from mental retardation.

Comparison of Total Mercury Determinations of Fish Fillets Homogenates by Thermal Decomposition, Amalgamation, and Atomic Absorption Spectrophotometry versus Cold Vapor Atomic Absorption Spectrophotometry